

Are You Anxious? Getting Cold Feet? Blame the Sympathetic Nervous System

The idiom "*cold feet*" can be interpreted as a sudden reversal of commitment, such as a groom's change of mind about getting married. This phrase may in fact represent a cardiovascular response to stress orchestrated by the Sympathetic Nervous System (SNS). The SNS can be activated by both physical and psychological stimuli. Its response to light exercise is diverting blood away from the skin toward skeletal muscle which cools the skin down. You could hypothesize that psychological duress could trigger a sympathetic response which redirects blood from the skin cooling it down. The purpose of this project is to assess whether public speaking, a situation common to the classroom can initiate an anxious response by the cardiovascular system which causes a cooling of the skin. Twenty four students in Human Physiology class participated in this study. Electrocardiograph, heart rate and skin temperature were obtained on each student at rest, light exercise and during public speaking using the Biopac System. The mean surface body temperature was significantly lower during the time students were public speaking (Avg. 85 °F) than at rest (Avg. 89 °F) $P < .00001$. The results would suggest that a sympathetic response to psychological stress was the culprit.